

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Reissue Application/Reexamination of: **URANO et al.**

US Patent No.: ~~5,216,135~~ - 09/870650

Group Art Unit: 1626

Reexam No.: 90/004,812

Examiner: STOCKTON, LAURA LYNNE

Filed: October 23, 1997

P.T.O. Confirmation No.: 8528

For: **DIAZODISULFONES**

**MERGED REISSUE & REEXAMINATION PROCEEDING**  
**AMENDMENT UNDER 37 CFR §1.111**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**COPY**

February 4, 2004

Sir:

In response to the Office Action dated **December 4, 2003**, please amend the above-identified application as follows:

**Amendments to the Claims** are reflected in the listing of claims which begins on page 2 of this paper.

**Remarks/Arguments** begin on page 4 of this paper.

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**AMENDMENTS TO THE CLAIMS:**

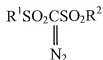
This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

**Claims 1-6 (Canceled)**

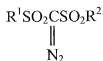
**Claim 7 (Original):** A compound according to claim 4, wherein R<sup>1</sup> is a branched alkyl group having 3 to 8 carbon atoms; and R<sup>2</sup> is a cyclic alkyl group having 3 to 8 carbon atoms.

**Claim 8 (Previously Presented):** A diazodisulfone compound of the formula;



wherein R<sup>1</sup> is a cyclic alkyl group in which the alkyl group is hexyl; and R<sup>2</sup> is a cyclic alkyl group in which the alkyl group is hexyl.

**Claim 9 (Previously Presented):** A diazodisulfone compound of the formula;



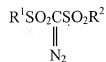
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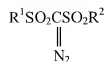
wherein R<sup>1</sup> is a branched alkyl group in which the alkyl group is butyl; and  
R<sup>2</sup> is a branched alkyl group in which the alkyl group is butyl.

**Claim 10 (Previously Presented):** A diazodisulfone compound of the  
formula:



wherein R<sup>1</sup> is cyclohexyl; and R<sup>2</sup> is cyclohexyl.

**Claim 11 (New):** A diazodisulfone compound of the formula:



wherein R<sup>1</sup> is a branched butyl; and R<sup>2</sup> is a branched butyl.

**REMARKS**

Claims 8-10 and new claim 11 are pending in this application

The support for new claim 11 is explained below. The applicants respectfully submit that no new matter has been added.

**Claims 8 and 9 are rejected under 35 USC § 112.** (Office Action p.3)

IUPAC<sup>1</sup> compound naming has caused all of the previous 35 USC § 112 confusion in this application. The Examiner noted, in reference to claim 8, at the bottom of p.4, text lines 16-17 of the Office Action, "However there is a description in the instant specification of U.S. Pat. 5,216,135 (column 2, line 52) for bis(cyclohexylsulfonyl)diazomethane."

Claim 10 is just another way, however not according to the IUPAC naming convention, of writing bis(cyclohexylsulfonyl)diazomethane. For that matter, claim 8 is an even longer way than claim 10 of writing bis(cyclohexylsulfonyl)diazomethane. Diazomethane, of course, is  $\text{CH}_2\text{N}_2$ . The radical cyclohexylsulfonyl is  $\text{C}_6\text{H}_{11}\text{SO}_2\cdot$ . When both radicals and the parent compound are described by the IUPAC naming convention, the expression is bis(cyclohexylsulfonyl)diazomethane.

Because claims 10 and 8 define bis(cyclohexylsulfonyl)diazomethane and the compound is listed in the specification on col. 2, line 52, it is clear that claims 10 and 8 are supported under 35

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<sup>1</sup> International Union of Pure and Applied Chemistry

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USC § 112z.

With regards to claim 9, the Examiner states on p.5, text lines 4-7, "However, there is a description in the instant specification of U.S. Pat. 5,216,135 (column 2, lines 55 and 56) for bis(*tert*-butylsulfonyl)diazomethane and bis(*sec*-butylsulfonyl)diazomethane."

New claim 11 is just another way, however not according to the IUPAC naming convention, of describing both bis(*tert*-butylsulfonyl)diazomethane and bis(*sec*-butylsulfonyl)diazomethane. For that matter, claim 9 is an even longer way than claim 11 of writing both bis(*tert*-butylsulfonyl)diazomethane and bis(*sec*-butylsulfonyl)diazomethane. The radical is butylsulfonyl which is  $C_4H_9SO_2-$  and which can be branched as either *tert*- or *sec*-. When both radicals and the parent compound are described by the IUPAC naming convention, the expression is either bis(*tert*-butylsulfonyl)diazomethane or bis(*sec*-butylsulfonyl)diazomethane.

Because claims 11 and 9 define bis(*tert*-butylsulfonyl)diazomethane and bis(*sec*-butylsulfonyl)-diazomethane, which are both compounds listed in the specification on col. 2, lines 55 and 56, it is clear that claims 11 and 9 are supported under 35 USC § 112z.

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2 The Examiner stated on p.5, text lines 9-12 of the Office Action dated March 5, 2003, "There is no guidance in the disclosure in column 2, lines 16-48 of the specification to arrive at the subject matter as claimed in instant claims 8 and 9. Therefore, the subject matter of claims 8 and 9 are not adequately supported in the instant application." This is point is moot because there is sufficient support in col.2, **line 52**, as stated above.

3 The Examiner stated on p.5, text lines 9-12 of the Office Action dated March 5, 2003, "There is no guidance in the disclosure in column 2, lines 16-48 of the specification to arrive at the subject matter as claimed in instant claims 8 and 9. Therefore, the subject matter of claims 8 and 9 are not adequately supported in the instant application." This is point is moot because there is sufficient support in col.2, **lines 55 and 56**, as stated above.

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Claims 8-10 are rejected under 35 USC § 102(e) as being anticipated by Pawlowski '641. Claim 9 is rejected under 35 USC § 103(a) over Pawlowski '641. (Office Action p.5 and 6)

While the exact IUPAC names bis(cyclohexylsulfonyl)diazomethane, bis(*tert*-butylsulfonyl)diazomethane and bis(*sec*-butylsulfonyl)-diazomethane, are not found in the priority document JP 2-019614, dated January 30, 1990, the **compounds** of claims 8-11 can easily be found in JP 2-019614 in accordance with the Federal Circuit guidance in the unpublished decision, *In re Wako Pure Chemical Industries*, 00-1139 (Fed. Cir. 2001).

At the top of p. 8, lines 1-4 of *In re Wako Pure Chemical Industries*, 00-1139, the court states: "Wako would be the same case as Driscoll if Urano had claimed the entire C<sub>1-10</sub> straight-chain, branched or cyclic alkyl genus in category one of the Markush groups listed in the Japanese application. However, Urano claimed only a subset of the first category disclosed in the Japanese application." Finally, in claims 8-11 the applicants are no longer claiming a **subset** of a Markush group, they are **only claiming one of the members** of a Markush group. In this case the members are listed examples.

On p.14, lines 5-10 of JP 2-019614 several examples of the compounds of the invention are simply listed as follows:

In the photosensitive compound represented by the formula [I] of this invention, as the straight-chain, **branched or cyclic alkyl**

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**group** or the alkyl group in the haloalkyl group represented by R<sup>1</sup> and R<sup>2</sup>, there are included C<sub>1-10</sub> alkyl groups such as methyl, ethyl, propyl, **butyl**, amyl, **hexyl**, octyl and decyl group. (**emphasis added**)

The language in JP 2-019614 is even in Markush format, "cyclic alkyl group ... **there are included** C<sub>1-10</sub> alkyl **groups such as...** octyl **and decyl group**" which is another acceptable way of saying members of the group selected from A, B and C groups.

Here claims 8-11 are drafted in a way, although not the IUPAC way, to make it unambiguously clear that specific exact members, not a subset of a member, of the Markush list in JP 2-019614 are being claimed. These claimed member compounds can be rewritten according to the IUPAC naming convention as bis(cyclohexylsulfonyl)diazomethane, bis(*tert*-butylsulfonyl)diazomethane and bis(*sec*-butylsulfonyl)diazomethane as explained above.

Thus the rejections under 35 USC § 102(e) and 35 USC § 103(a) are rendered moot for the reason that the support for claims 8-11 date back to January 30, 1990, making **Pawlowski '641** a non-reference.

**Claim 10 is objected to for being a substantial duplicate of claim 8.** (Office Action p.3)

Claim 10 is not rejected under 35 USC 112, first paragraph, presumably because there is clear support in US Patent 5,216,135, because claim 10 is simply another way of writing bis(cyclohexylsulfonyl)diazomethane described in column 2, line 52. Further, the Examiner admits that claim 10 is a substantial duplicate of claim 8, which means that claim 8 is

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also an alternative way of chemically writing bis(cyclohexylsulfonyl)diazomethane. Claim 8 obviously has a clear basis in JP 2-019614, because there of the description on p. 14 of JP 2-019614 that,

In the photosensitive compound represented by the formula [I] of this invention, as the straight-chain, **branched or cyclic alkyl group** or the alkyl group in the haloalkyl group represented by  $R^1$  and  $R^2$ , there are included  $C_{1-10}$  alkyl, groups such as methyl, ethyl, propyl, **butyl**, amyl, **hexyl**, octyl and decyl group. (**emphasis added**)

If that is not enough, it is also clear from the filed Declaration dated December 12, 2002 and signed by Dr. Albert Tockman, Ph.D. a skilled chemist, claims 8, 9 and 10 are clearly supported by JP 2-019614. On p.3 of the Declaration, Dr. Tockman states, "It is my further opinion that the Japanese patent Application establishes to an organic chemist of ordinary skill in the art that the inventors in the Japanese Patent Application were in possession of the compounds described in claims 8, 9 and 10."

Therefore, claim 10 and claim 8 is supported by both the instant specification of U.S. Pat. 5,216,135 and JP 2-019614, which is the priority document of U.S. Pat. 5,216,135.

Furthermore, the relationship of claim 9 and 11 is same as that of claim 8 and 10.

Therefore, from the same reason mentioned above, claim 11 and claim 9 are also clearly allowable.



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As the priority date of JP 2-01914 is January 30, 1990, the any rejection of claim 10 is rendered moot for the reason that the support for all claim 8-11 date backs to January 30, 1990, making Pawlowski '641 a non-reference.

**Claim 7 is free of the art of record for reasons already of record in Paper No. 39, pages 4-5. Therefore, claim 7 is allowed.** (Office Action p.9)

In view of the new remarks, claims 7-11, are in condition for allowance, which action, at an early date, is requested.

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If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact the Applicants' undersigned attorney at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

In the event that this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 01-2340.

Respectfully submitted,

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